

Appl. No. : 10/624,094
Filed : July 21, 2003

REMARKS

By way of summary, Claims 1-47 remain pending in the present application, Claims 1, 7, 8, 21, 25, 26, 33, 37, 44, and 46 having been amended. The claims set forth above include markings to show the changes made by way of the present amendment, deletions being in ~~strikeout~~ and additions being underlined.

In response to the Office Action mailed April 26, 2005, Applicants respectfully request the Examiner to reconsider the above-captioned application in view of the foregoing amendments and the following comments.

Claims Indicated As Allowable

Applicants thank the Examiner for the indication of the allowability of the subject matter of Claims 7-12 and 25-30. The Examiner objected to these claims as being dependent upon rejected base claims, but indicated that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have amended Claims 7, 8, 25 and 26 into independent form, and thus, Claims 7-12 and 25-30 are now in condition for allowance.

However, Applicants also submit that in light of the arguments made below, these Claims were allowable as previously presented in dependent form. Thus, Applicants submit that all of the equivalents of the recitations of Claims 7-12 and 25-30 are also equivalents of the recitations now recited in Claims 7-12 and 25-30.

Claims 1-6, 17-19, 21-24 and 32 Are Not Anticipated By Uchida et al.

Claims 1-6, 17-19, 21-24 and 32 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over Uchida et al. (U.S. Patent No. 4,767,363). Applicants do not agree with the Examiner's characterization of the reference nor with the rejection of the claims. However, in order to expedite prosecution of the present application, Applicants have amended Claims 1 and 21. Applicants expressly reserve the right to further prosecute the original version of Claims 1-6, 17-19, 21-24, and 32 through continuation practice.

Briefly, the present invention is directed to a control device and method for a watercraft that aids in preventing over revving of the engine. For example, as noted in the Summary of the Invention of the present Application, "personal watercraft can travel at an elevated speed . . . Under this condition, if the rider sharply steers the handlebar over a certain angular range (i.e., if the steering position sensor produces the signal "1" as indicated by the reference numeral 12 in

Appl. No. : 10/624,094
Filed : July 21, 2003

Figure 1), the engine speed quickly increases and over revs because the dynamic pressure falls as the watercraft turns. Thus, the revolution limiter operates quite often, as indicated by the reference numeral 14."

In the non-limiting embodiments illustrated in the Figures and described in the corresponding text in the present application, the watercraft includes a controller which monitors the position of the handlebars, and the power output of the engine, the engine speed, or the engine load. At any time that the handlebars are turned to be on the predetermined degree and, depending on the embodiment, one of the engine speed, the power output or engine load of the engine is beyond a predetermined magnitude, the engine speed of the engine is reduced. As noted above, the Summary of the Invention of the present Application indicates that this type of intervention helps prevent the engine from over revving.

Uchida et al. discloses that the engine speed is reduced only "when the throttle valve associated with the throttle valve shaft 36 is opened rapidly." Col. 5, ll. 3-5. If the throttle valve is opened to the same extent, but less rapidly, "the gradual acceleration will be permitted." Col. 5, ll. 8-13. Uchida et al. does not disclose a preset magnitude of engine power above which the engine power is limited; rather, Uchida et al. discloses a preset rate of acceleration of throttle position, such that the boat cannot be accelerated around a curve too quickly. *See* Col. 1, ll. 27-35.

In contrast, Claim 1 now recites, among other recitations, a "control device decreasing the magnitude of engine power when the control device determines that the magnitude of engine power is greater than a preset magnitude of engine power or the magnitude of engine load is greater than a preset magnitude of engine load based upon an output from the first sensing means, and that the angular position of the steering mechanism is greater than a preset angular position based upon an output from the second sensing means, without regard to a rate of change of engine power or engine load." Similarly, Claim 21 now recites, among other recitations, a "control device decreasing the engine speed when the control device determines that the engine load is greater than a preset engine load based upon an output from the engine load sensing device and that the angular position of the steering mechanism is greater than a preset angular position based upon an output from the steering position sensing device, without regard to a rate of change of the engine load."

Appl. No. : **10/624,094**
Filed : **July 21, 2003**

Firstly, Applicants recognize that the Examiner has indicated that Applicants “may desire to amend the claims to preclude the time element required by Uchida.” Applicants submit that the changes to Claims 1 and 21, noted above, clearly do eliminate the time element required by Uchida. However, the amendments made to Claims 1 and 21 are fully supported by the present application, as they are based on the present application.

Applicants respectfully direct the Examiner to the routines of Figures 8, 10, 12, 14, and 17 which clearly illustrate that these routines operate without regard to any rate of change of engine speed, engine load, or power output of the engine. Further, the illustrative, but non-limiting representation of the operation of a watercraft (Figure 9) including control devices running these control routines shows numerous examples of situations where the throttle valve position is changed slowly and instantaneously, yet the same results are provided.

For example, the throttle valve can be held at steady state or it can be changed at rapid rate, but the same results are provided in that regardless of the rate of change of the throttle valve position, the engine speed is reduced when the handlebars are turned beyond a predetermined degree and the throttle valve is open beyond a predetermined degree. Thus, Applicants submit that not only are these changes to Claims 1 and 21 clearly supported by the present specification, they are also inherently disclosed by the present specification.

Further, Applicants note that the Uchida reference cannot provide the advantages noted in the present application. Namely, when a watercraft is operating at an elevated speed at a steady state, and the handlebars are turned beyond a predetermined degree, the engine speed of the present watercraft is reduced to prevent cavitation. The Uchida reference does not disclose or suggest any system that could provide such a benefit.

Thus, Applicants submit that Claims 1 and 21 clearly and nonobviously define of the Uchida et al. reference. Further, Applicants submit that Claims 2-6, 17-19, 22-24, and 32 also define over the Uchida et al. reference, not only because they depend from Claims 1 or 21, but also on their own merit.

Claims 37-39 and 42-45 Are Non-obvious Over Uchida et al.

Claims 37-39 and 42-45 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Uchida et al. Applicants again do not agree with the Examiner’s characterization of this reference and with the rejection of the claims. However, in order to expedite prosecution of the

Appl. No. : 10/624,094
Filed : July 21, 2003

present application, Applicants have amended Claims 37 and 44. Applicants expressly reserve the right to further prosecute the original versions of Claims 37-45 through continuation practice.

As noted above, Uchida et al. only teaches a system that analyzes a rate of change of the throttle valve position to determine if the engine speed should be reduced when an operator attempts to turn the watercraft at greater than a predetermined angle. Thus, the Uchida et al. reference does not teach a system that can provide the same benefits noted in the present Application. As noted above, the non-limiting embodiments of the present Application are directed to the problem of over-revving an engine when a watercraft is operating at an elevated speed and then the handlebars are turned beyond the predetermined degree. The systems of Uchida et al. completely fail to alleviate this issue.

In contrast, Claim 37 now recites, among other recitations, "decreasing the magnitude of engine power when the magnitude of engine power is greater than the preset magnitude of engine power or the magnitude of engine load is greater than the preset magnitude of engine load regardless of a rate of change of the engine power or engine load and the angular position of the steering mechanism is greater than the preset angular position." Similarly, Claim 44 recites, among other recitations, "decreasing an engine speed of the engine when the engine load is greater than the preset engine load and the angular position of the steering mechanism is greater than the preset angular position at all rates of change of engine load."

As noted above, Uchida et al. fails to suggest or disclose any type of system that could consistently and repeatedly reduce the speed of an engine when the engine speed, engine power, or engine load are beyond predetermined magnitudes and the steering mechanism is turned beyond a predetermined degree, without regard to a rate of change of any of these parameters. Thus, Uchida et al. fails to provide the benefits associated with these features noted in the present Application.

Applicants thus submit that Claims 37 and 44 clearly and nonobviously define over the Uchida et al. reference. Additionally, Applicants submit that Claims 36-39, 42, 43, and 45 also define over the Uchida et al. reference, not only because they depend from one of Claims 37 or 44, but also on their own merit.

Claims 1, 2, 13-19, 31, 33-36, 37, 40, 41, 46 and 47 Are Not Obvious Over Uchida et al. and Fukui

Claims 1, 2, 13-19, 31, 33-36, 37, 40, 41, 46 and 47 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Uchida et al. in view of Fukui (U.S. Patent No. 5,203,727).

Appl. No. : 10/624,094
Filed : July 21, 2003

Applicants do not agree with the Examiner's characterization of these references and with the rejection of these claims. However, Applicants have amended Claims 1, 21, 33, and 46 in order to expedite prosecution of the present application. Applicants expressly reserve the right to further prosecute the original versions of Claims 1, 2, 13-19, 31, 33-36, 37, 40, 41, 46, and 47 through continuation practice.

Firstly, Applicants would like to note that Claim 46 has been amended to recite, among other recitations, "determining whether the angular position of the steering mechanism is greater than a preset angular position, and decreasing in engine speed when the engine speed is greater than the preset engine speed and the angular position of the steering mechanism is greater than the preset angular position under all rates of change of engine speed."

As such, Claim 46 is also similar to Claims 1, 21, 33, 37, and 44 in that the control method for controlling an engine of a watercraft recited in Claim 46 can provide the same benefits noted above with reference to Claim 1, for example. As made clear above, these benefits include the ability to prevent cavitation when a watercraft is cruising at an elevated speed and the handlebars are turned beyond a predetermined degree.

As noted above, Uchida et al. cannot provide this benefit. Further, Fukui does not rectify the failures of Uchida et al. Thus, Applicants submit that Claims 1, 33, 37, and 46 clearly and nonobviously define over the Uchida et al. and Fukui references.

Applicants also submit that Claims 2, 13-19, 31, 35-36, 40, 41, and 47 also define over the Uchida et al. and Fukui references, not only because they depend from one of Claims 1, 21, 33, 37, or 46, but also on their own merit.

Claims 1 and 20 Are Non-obvious Over Uchida et al. and Hall et al.

Claims 1 and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Uchida et al. in view of Hall et al. (U.S. Patent No. 6,168,485). Applicants do not agree with the Examiner's characterization of these references and with the rejection of these claims. However, Applicants have amended Claim 1 to expedite prosecution of the present application. Applicants reserve the right to further prosecute the original version of Claims 1-20 through continuation practice.

As noted above, Applicants submit that Claim 1 clearly and nonobviously defines over the Uchida et al. reference. The Examiner has cited the Hall et al. reference merely to show the obviousness of replacing an outboard motor with a jet pump. However, Hall et al. does not

Appl. No. : **10/624,094**
Filed : **July 21, 2003**

rectify the other failures of Uchida et al., noted above; the failure of Uchida et al. to teach or suggest a system that can reduce the speed of an engine whenever the engine speed, power output, or engine load exceed a predetermined threshold and the handlebars are turned beyond the predetermined angle.

Thus, Applicants submit that Claim 1 clearly and nonobviously defines over the Uchida et al. and Hall et al. references. Further, Applicants submit that Claim 20 also defines over the Uchida et al. and Hall et al. reference, not only because it depends from Claim 1, but also on its own merit.

Conclusion

In view of the foregoing remarks, Applicants respectfully request the Examiner to reconsider and allow the claims. If, however, some issues remain that the Examiner feels can be addressed by an Examiner's Amendment, the Examiner is cordially invited to call the undersigned.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: August 26, 2005

By: 

Michael A. Guiliana
Registration No. 42,611
Attorney of Record
Customer No. 20,995
(949) 760-0404

1892110_1
082605